

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>SPCM188</b>		FOR FURTHER ACTION	See Form PCT/IPEA/416																
International application No. <b>PCT/JP2004/009478</b>	International filing date (day/month/year) <b>28.06.2004</b>	Priority date (day/month/year) <b>30.06.2003</b>																	
International Patent Classification (IPC) or national classification and IPC																			
Applicant <b>NATIONAL UNIVERSITY CORPORATION KAGAWA UNIVERSITY</b>																			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <table border="0" style="width: 100%;"> <tr> <td><input checked="" type="checkbox"/> Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/> Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/> Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/> Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/> Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/> Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/> Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>				<input checked="" type="checkbox"/> Box No. I	Basis of the report	<input type="checkbox"/> Box No. II	Priority	<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/> Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/> Box No. VI	Certain documents cited	<input type="checkbox"/> Box No. VII	Certain defects in the international application	<input type="checkbox"/> Box No. VIII	Certain observations on the international application
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Date of submission of the demand		Date of completion of this report																	
Name and mailing address of the IPEA/JP		Authorized officer																	
Facsimile No.		Telephone No.																	

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/009478

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
    - ☐ international search (Rule 12.3 and 23.1(b))
    - ☐ publication of the international application (Rule 12.4)
    - ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
  - ☒ the international application as originally filed/furnished
  - ☐ the description:
    - pages \_\_\_\_\_ as originally filed/furnished
    - pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☐ the claims:
    - nos. \_\_\_\_\_ as originally filed/furnished
    - nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
    - nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☐ the drawings:
    - sheets \_\_\_\_\_ as originally filed/furnished
    - sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
  - ☐ the description, pages \_\_\_\_\_
  - ☐ the claims, nos. \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (*specify*): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - ☐ the description, pages \_\_\_\_\_
  - ☐ the claims, nos. \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (*specify*): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	2-10, 12-20	YES
	Claims	1, 11	NO
Inventive step (IS)	Claims	4-5	YES
	Claims	1-3, 6-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
<p>Document 1: JP 10-333912 A (Oki Electric Industry Co., Ltd.), 18 December 1998, entire text, all drawings (Family: none)</p> <p>Document 2: JP 2002-109536 A (Nightingale Technologies Ltd.), 12 April 2002, entire text, all drawings &amp; EP 001191459 A1 &amp; WO 2002/025574 A2</p> <p>Document 3: JP 2001-331839 A (Glory Ltd.), 30 November 2001, entire text, all drawings (Family: none)</p> <p>The inventions set forth in claims 1 and 11 lack novelty in the light of document 1 cited in the international search report, which discloses the technical feature of carrying out a self-organizing learning process for each respective attribute class (corresponding to "each respective operation mode" in the invention that is set forth in the present application).</p> <p>The inventions set forth in claims 2, 3, 7 to 10, 12, 13 and 15 to 20 do not involve an inventive step in the light of document 1 and document 2 cited in the international search report. It would have been easy to conceive of including the time derivative values among</p>			

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

the parameter values for the self-organizing learning process that is disclosed in document 1 (refer to document 2), and a person skilled in the art could select the number of parameters to be used in said process, as appropriate.

Meanwhile, from a technological standpoint it would not have been especially difficult to conceive of employing the method for determining the mode of a device by means of a self-organizing learning process in order to determine the modes of various well-known appliances or the like.

Furthermore, the technical feature of determining the mode of a device from the relative values of the neurons is well known.

The inventions set forth in claims 6 and 14 do not involve an inventive step in the light of document 1, document 2 and document 3 cited in the international search report. The feature of eliminating the unused neurons is well known, as disclosed in document 3; therefore, it would have been easy to add said well-known technical feature to the self-organizing learning process that is disclosed in document 1.

With regards to the invention set forth in claims 4 and 5, although documents 1 to 3 disclose methods of self-organizing learning, the technical feature of selecting the winning neurons that have a small average value and a small standard deviation from among the plurality of winning neurons is not disclosed or suggested in any of the documents that are cited in the international search report, and would not have been obvious to a person skilled in the art.

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